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International Business Machines Corporation
Intellectual Property Law Department
Internal Zip 4054
11400 Burnet Road
Austin, TX 78758

EXAMINER
WOODS, ERIC V

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *25 June 2007*.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-14,21,22 and 24-31* is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-14,21,22 and 24-31* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a) ☐ All   b) ☐ Some * c) ☐ None of:

　　1. ☐ Certified copies of the priority documents have been received.

　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks pages 9-16 filed 6/25/2007, with respect to the rejection(s) of claim(s) 1-23 under various statutes have been fully considered and are persuasive.

The rejection of claims 15-20 and 23 under 35 USC 101 and 35 USC 103(a) stand withdrawn since those claims were canceled.

The rejection of claims 1-14 and 21-22 under 35 USC 103(a) stand withdrawn in view of applicant's arguments.

Responding to applicant's arguments concerning 'stacked area graph': With respect the definition of 'area graph', evidence that examiner has already introduced into the record as evidence (e.g. the 'Excel' documentation authored by Jinjer) clearly shows the meaning of an "area graph" and that this concept is **old and well known in the art**. See as additional supplementation:

-US 5,566,084 Figures 8A-8C, where such 'stacked area charts' are described 4:5-18 and 21:25-33

-US 5,611,034 Figures 10-11 and 19-20 refer to 'Area line' graphs (5:50-60);

And most importantly

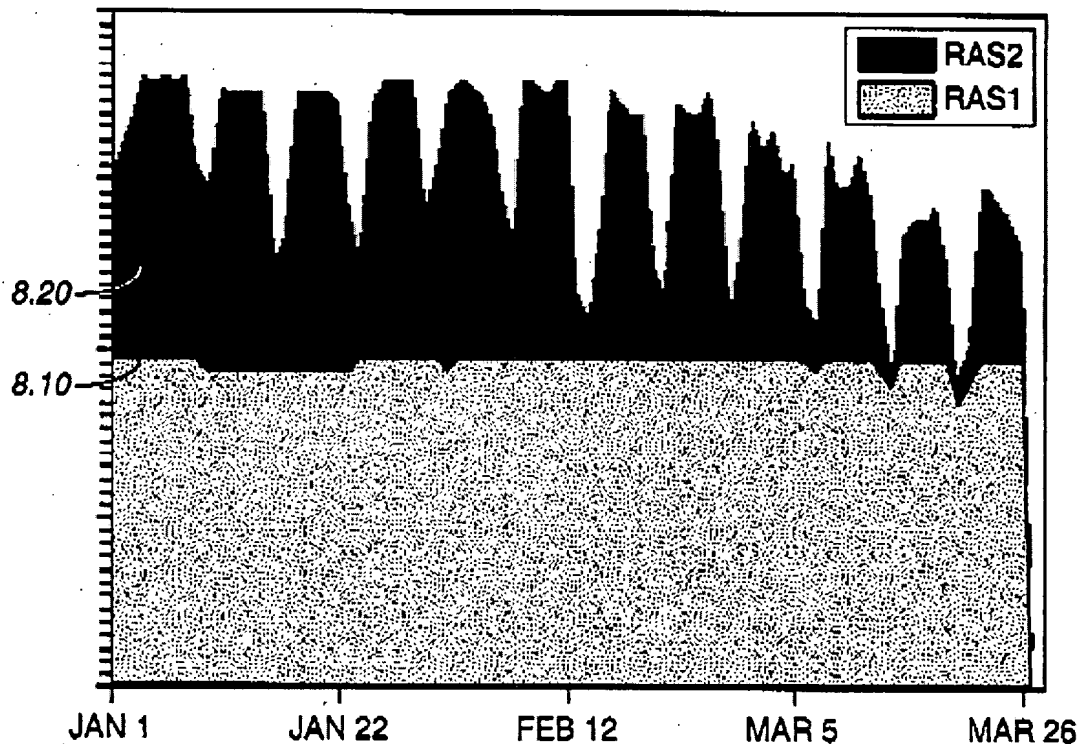-US 6,516,348 to MacFarlane et al – Figure 8 shows:

FIG._8

FIG. 8 shows usage data for a single resource consisting of two resource elements. It illustrates how data for resources consisting of multiple elements can represented graphically and how daily data for a resource is represented.

In FIG. 8, two separate resource elements RAS1 and RAS2 comprise a composite resource. The usage for resource element RAS1 for any given day is represented by the vertical height of the lightly-shaded (lower) area for that day. The usage for RAS2 for any given day is superimposed upon the usage for RAS1 and is represented by the darkly-shaded area. The total usage for the composite resource for any given day is the sum of the usage for RAS1 and RAS2 taken parallel to the vertical axis of the graph. For example, if FIG. 8 represented the number of used ports across two remote access servers, the usage level indicated by 8.10 would represent usage on January 22 for RAS1, the usage level indicated by 8.20 would represent usage on that day for the composite resource including RAS1 and RAS2, and usage for RAS2 on that day would equal the difference between the values indicated by 8.20 and 8.10. Although FIG. 8 is a *stacked area graph*, any *stacked graph* could accurately represent the combined utilization of the composite resource.

As previously discussed, usage levels indicated by 8.10 and 8.20 are representative of usage levels for the day January 22. More specifically, those levels indicate the lowest percentage of capacity utilization during "peak minutes" of capacity usage on January 22. The quantity of "peak minutes" that are considered for the

purposes of calculating the data point indicated by 8.20 is selectable by the user. For instance, the usage level indicated by 8.20 could indicate the minimum capacity usage during highest 36 minute periods of usage on January 22. If the lowest percentage of usage during this period were 80 percent, then 80 percent would be used to represent usage for the composite resource on January 22 and would be used by the server to predict when capacity may be exceeded. The data point indicated by 8.20 would represent this 80 percent value in FIG. 8. Servers at each POP of a network contain logical components that can generate daily capacity usage data for composite resources, as FIG. 8 indicates.

It is further noted that with respect to the Kahn reference, applicant's oft-repeated argument, "A stacked line graph is shown but it is not clear that the stacked areas all relate to the same time dependent variable." (Remarks page 10) - that has been used with respect to Havre, Excel, and other references – does not apply. The Kahn reference expressly states that a typical example would be the contribution of various salespeople to overall total sales over some time period and precisely defines an area graph in the definition that will overcome.

Next, to briefly address the repeated arguments on the relevance and utility of the *Havre* reference, examiner has repeatedly cited it because it shows the use of a *subset* of a corpus of words. That is, in the example shown in Figure 3, "...*the depicted data corresponds to the occurrence of **particular words** {Brazil, cane, weapon, etc}* [specific areas] *within data, **such as a collection of speeches by Fidel Castro over a given period of time*** [total areas]...visual representation 21...depicts thematic strengths of the themes with respect to the ...references (e.g., day, month, year, etc.)..." (4:14-60) It is shown both in the thematic illustration 18 and the histogram at the bottom of Figure 3. There is also the representation found in Figure 5, which shows the total area with the contributions of the various portions, with weighting of each element and

the total appropriately discussed (6:25-38,6:55-7:20, any given number of components

contemplated) and as illustrated in Figure 8 (8:65-9:20), which clearly states the point of

stacking the components, where such an output would be Figure 10 (9:65-10:10), but

normalized to a base axis, as in Figure 5 (which is _clearly contemplated for this, as_

specified in 10:14-17).

However, upon further consideration, a new ground(s) of rejection is made in

view of various references as set forth below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 24-31 are rejected under 35 U.S.C. 101 because they recite non-statutory

subject matter. The claim is not written in the manner that would render it statutory.

Quoting from the *Interim Guidelines for Patent Subject Matter Eligibility* for exemplary

language:

A claimed computer-readable medium encoded with a computer program is a computer

element which defines structural and functional interrelationships between the computer program

and the rest of the computer which permit the computer program's functionality to be realized,

and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is

important to distinguish claims that define descriptive material per se from claims that define

statutory inventions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6, 8-14, and 24-30 stand rejected under 35 U.S.C. 103(a) as being

unpatentable over Kahn (US 5,581,678 A) in view of Havre (US 6,466,211), and in

view of Dehner, JR et al (US 6,429,868 B1).

As to claims 1, 8, and 24 (method, system (processor and display, Kahn Figures

1A-1C), and computer usable medium)

Kahn teaches the following limitations:

A computer implemented user interactive method for graphically displaying the

proportion of a total value of a time dependent variable contributed by each of a

set of elements comprising the steps of: (Kahn Figures 6A-6H; 11:45-12:20, where

data in a spreadsheet (e.g. 'Beverage Sales' in Figures 6A-6H), where the descriptions

of the graphs in 11:45-55 clearly emphasize that the graphs track sales over (e.g. "Line

graphs show the progression of values over time") and more specifically, "Area graphs

show the relationship of each value to the total over time—how much each sales

representative contributed to total sales over a 12 month period, for example"

When Kahn describes area graphs, Kahn is referring to "stacked area graphs" as known

from the various references in evidence – e.g. the composite resource referred to in)

-Displaying the proportion contributed by each element of the same time

dependent variable as an area within an ordered set of areas under a line

representative of the total value of said time dependent variable; (Kahn clearly

shows in Figures 6A-6H that various types of graph have the time dependence on the

horizontal, e.g. x-axis, and the quantity being measured on the vertical, e.g. y-axis.

Such graphs would have the form know, as discussed above – the overall total would

be the uppermost bounded area, with the various components represented under the

line. The term "area" is taken to mean area under the line; that is, each area is placed

on top of each other such that a final total is generated by the composite height of the

various component sections)

Kahn fails to teach, but Havre and Dehner each partially teach:

-Enabling the user to interactively select one of said set of areas; and (Havre

clearly teaches, with respect to the method in Figure 9, that the processor accesses an

input data file that lists all words that appear in the documents of the received data and

also the number of times the words appear in the documents with respect to references

comprising given moments in time in the described method (9:20-64). Once this file has

been loaded, and miscellaneous tasks performed, the user *selects important themes*

provided via an interactive methodology (see step S56). *The user adjusts the number*

of themes to be displayed within thematic illustration 18 ... using user interface 16. For

example, the user reduces the number of themes..." Clearly, this at least suggests

allowing the user to select and de-select various themes, e.g. sub-components of the

data. However, it is not clear whether or not this takes before graph generation or

during the display process.

Kahn and Havre fail to teach, but Dehner teaches:

-Performing a selected operation selected from the group consisting of hiding the

selected area, displaying the selected area and reordering the position of the

selected area within said ordered set responsive to said user selection.
(Dehner ("hiding certain areas from display" – 11:64-12:5, 22:10-35), Dehner ("The

method...permit an observer to interactively and dynamically **reorder,** sort, categorize,

and transform a displayed data space or parts of it" 4:25-30), Dehner teaches

emphasizing data (4:30-45) – system can hide certain areas, obviously it can choose to

display them as well).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to add the extra-axis visualization capabilities of Havre to the

stacked graphs of Kahn in order for the user to better be able to place certain

interrelationships in the context of various other, historical events of the like (e.g. a graph of total sales for the airline industry would be more optimally viewed with certain historical events (such as September 11, 2001) noted on the graph to explain large shifts in such relationships, which Havre would provide (among other things). See Cuban dataset, Figure 3. Finally, note that Havre teaches standard stacked area graphs, as in Figure 5 (6:62-7:20), as having certain benefits for understanding certain graphical capabilities.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kahn/Havre to utilize the data visualization techniques of Dehner because it allows for effective visualization and manipulation of much larger data sets than are initially contemplated by those reference (4:10-23), as well as providing better navigation (4:30-43).

As to claim 2, clearly Kahn teaches the stacked area graph as described above.

As to claim 3, Kahn et al does not expressly teach but Havre et al discloses that the selected operation performed is hiding the selected area; and further including the step, responsive to hiding step, of reforming at least one of the remaining displayed areas so as to represent the resulting change of reformed area within ordered set of stacked areas. (See Havre 6:21-24, 9:49-54), that is the user reduces the number of themes (Figure 9) and then the system generates the chart again, minus the removed theme wherein it is on a centerline (10:10-23). Motivation is incorporated by reference from the rejection of the parent claim.

As to claim 4, clearly Kahn does not expressly teach and Havre may implicitly teach (in the form of the step 56 in Figure 9, where a user could conceivably add themes rather than remove them), but Dehner expressly teaches rendering areas visible via emphasis and/or removal (see rejection to claim 1 above, 22:13-45), and the system of Havre clearly shows that the display will re-update itself when a theme is removed or added. Motivation is incorporated by reference from the rejection of the parent claim.

As to claim 5, clearly Kahn / Havre do not expressly teach, but Dehner teaches the reordering of the data set as above, and Havre clearly shows that the display will re-update itself when a theme is removed or added. Data sources are similar to Havre for time-series data (7:1-20, 11:15-40). Motivation is incorporated by reference from the rejection of the parent claim.

As to claim 6, Kahn does not expressly teach (Kahn teaches legends on the bottom of the graph for each time series), Havre does not teach and Dehner teaches a plurality of icons that represent different options – time period, color spectrum, altitude, different color spectrums (e.g. hide one grid and/or show another), and different elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kahn / Havre to utilize a plurality of icons for such standard operations on a central dashboard that is easier for the user to manipulate (11:15-45). Motivation is incorporated by reference from the rejection of the parent claim.

As to claim 7, Khan does not expressly teach but Havre et al discloses that displaying a plurality of icons [i.e. "thematic label"; 49] each representative of one of

areas whereby the user may select one of areas by selecting the icon representative of the selected area. (See Havre Fig 3, 6:15-25, 9:48-55, and the like, and labels on the various elements, e.g. the word "Brazil" but this would be representative of any type or category of data shown therein). Each representative of one of areas whereby the user may reorder the position of the selected area by reordering the position of the selected icon representative of the selected area. (See Havre Fig 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Khan such that the icons on the legend could be rearranged to result in the switching of positions in the underlying data set that would be consistent with the carrying over of those functionalities from the Dehner reference; that is, with the iconic dashboard incorporated into and discussed in the rejection to the parent claim. Motivation is incorporated by reference from the rejection of the parent claim.

Regarding claims 8-14, claims 8-14 are similar in scope to the claims 1-7, and thus the rejections to claims 1-7 hereinabove are also applicable to claims 8-14.

The additionally recited 'means for displaying' in claim 8 (construed as the display device 38 in the instant application, Figure 1) is monitor 18 in Havre Figure 1, display 15 in Havre Figure 2.

The recited 'means for enabling the user to interact' (construed as mouse 24 and/or keyboard 26, instant application, Figure 1, and programs operable within the computer per se, where the UI adapter 22 **must** be the interface from the mouse to the computer per se, and the software running on CPU 10) consists of Havre Figure 1, mouse 19, keyboard 13, which are collectively user input devices 16, which are shown

interfaced to computer 14, which therefore requires an interface module *per se* and the

software is that executing upon processor 20 with attendant presence in memory 22.

The recited 'means for performing' (construed in instant application Figure 1, as

software operable upon CPU 10 with programs resident in RAM 14 loaded from various

storages devices) is Havre, Figure 2, and processor 20, with programs resident in

memory 26.

Regarding claims 24-30 (computer usable medium) claims 24-30 are similar in

scope to the claims 1-7 and the rejections to those claims are incorporated herein by

reference in their entirety.

Claims 21, 22, and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kahn, Havre, and Dehner, and further in view of Yonts

(6,590,577).

Regarding claim 21, the combination of Kahn, Havre, and Dehner et al fail to

discloses that selected operation is performed by morphing the displayed stacked area

graph through an animated display sequence of stacked graphs. However, such

limitation is shown in the teaching of Yonts in an analogous art. [i.e. "tweening and

morphing"] (See Yonts 3:38-52) It would have been obvious to one skilled in the art to

incorporate the teaching of animation, etc, of Yonts, into the system of Kahn, Havre,

and Dehner in order to effectively provide display visualization with dynamic process, as

such improvement is also advantageously desirable in the teaching Havre et al for

providing data representation with improved and fancy image manipulation without complicated manner.

Regarding claims 22 and 31, claims 22 and 31 are similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claims 22 and 31.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Woods

9/27/2007

ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER